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Health at a Glance

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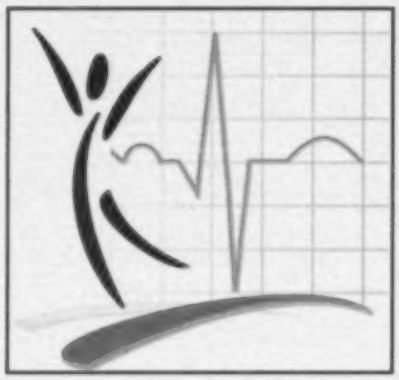

by Linda Gionet

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0^s value rounded to 0 (zero) where there is a meaningful distinction between true zero and the value that was rounded
^{p} preliminary
^{r} revised
x suppressed to meet the confidentiality requirements of the *Statistics Act*
^{E} use with caution
F too unreliable to be published
* significantly different from reference category ($p < 0.05$)

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Health at a Glance

Flu vaccination rates in Canada

by Linda Gionet

Highlights

- Almost one-third of Canadians aged 12 and over got a flu vaccination in 2013–2014.
- Nova Scotia had the greatest increase in the percentage of people getting a flu vaccination between 2003 and 2013–2014, while Ontario was the one province where the rate decreased.
- 2013–2014 saw a higher flu vaccination rate among younger Canadians aged 12 to 44 (19%), compared with the 2003 rate (16%).
- Among seniors aged 65 and older, the percentage who received a flu vaccination increased between 2003 and 2013–2014 in New Brunswick; while it decreased in Ontario, Saskatchewan and British Columbia.
- Among those with chronic conditions (under 65 years old), the flu vaccination rate increased between 2003 and 2013–2014 in the Atlantic and Prairie provinces, while it decreased in Ontario.

Millions of Canadians become infected with seasonal influenza (flu) each year.[1] Although most people recover from this type of respiratory infection within ten days, some people are at risk of more serious complications such as pneumonia. There is an average of about 12,200 flu-related hospitalizations[2,3,4] and 3,500 deaths from the flu each year.[5] When flu and pneumonia were combined, they represented the eighth leading cause of death in Canada in 2011.[6]

The National Advisory Committee on Immunizations (NACI) recommends that Canadians six months of age and older get vaccinated against the flu every year.[7,8] The flu vaccine serves to protect the recipient, and also helps prevent the spread of the virus to others.

In this article, national, provincial and territorial flu vaccination rates are presented for those aged 12 and over who received a flu vaccination within the 12 months prior to responding to the survey. Flu vaccination rates are also provided for two groups at high risk of complications from the flu: seniors aged 65 and over and those under 65 with selected chronic conditions.

Data for this article are from the 2003 to 2014 Canadian Community Health Survey-Annual Component (CCHS-Annual).

Higher percentage of people receiving the flu vaccine

In 2013–2014, nearly a third of Canadians received a flu vaccination within the 12 months prior to responding to the survey. The age-standardized rate was 30% in 2003, increased to 36% in 2005 and then decreased to 31% in 2013–2014 (Chart 1). As with previous studies, respondents of the 2013–2014 CCHS who got a flu vaccination were more likely to have a regular medical doctor, and tended to be: female, older, less educated, and in fair or poor health.[9,10,11]

The majority of people who were not vaccinated in the 12 months prior to responding to the survey felt it was unnecessary (56%) while 26% "didn't get around to it" in 2013–2014 (data not shown).

Between 2003 and 2013–2014, there were a number of key developments that may have had an impact on flu vaccination rates. One example is the H1N1 pandemic during the 2009–2010 flu season, resulting in a nation-wide promotional campaign and an extensive vaccination program. According to the 2010 CCHS, 41% of Canadians got the H1N1 vaccine (excluding the territories).[12] The 2009–2010 flu season was unique in that the H1N1 vaccine was separate from the regular flu vaccine. As such, it may have influenced the flu vaccination rates during that time.

Another change that may have had an impact on flu vaccination rates was that, following the H1N1 pandemic, five provinces and one territory joined Ontario, Yukon and Nunavut in providing flu vaccines free of charge to more people (universal coverage).[13,14] Another key development is the increasing availability of flu vaccines at pharmacies in select provinces.[15,16]

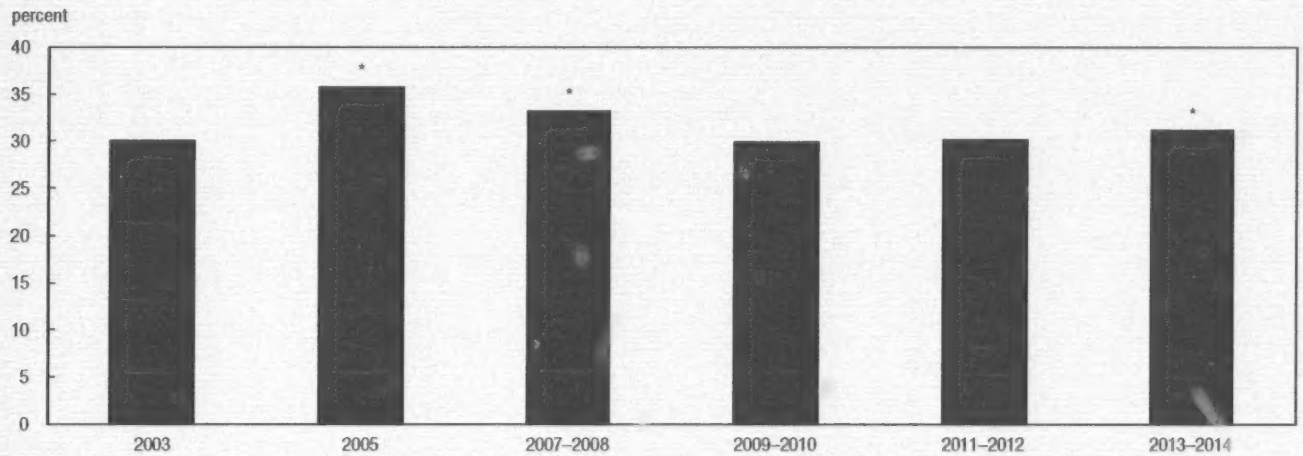
Flu vaccination rates increased in all provinces and territories except Ontario

Flu vaccination rates increased in all provinces and territories except Ontario between 2003 and 2013–2014. Nova Scotia had the highest provincial flu vaccination rate (45%), while Quebec had the lowest (24%) in 2013–2014 (Chart 2).

In Quebec, the flu vaccination rate was 24% in 2013–2014, similar to the rate in 2003. Within the province, however, there were notable increases during that time period in two health regions: *la Gaspésie–Îles-de-la-Madeleine* in eastern Quebec and *Montérégie* near Montreal.[17]

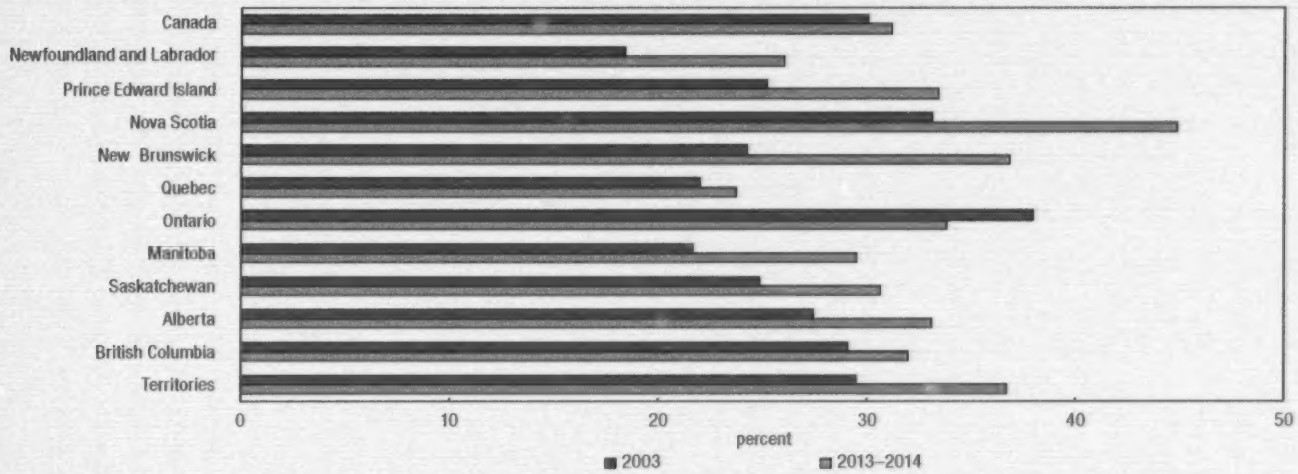
Ontario was the one province where the flu vaccination rate was lower in 2013–2014 at 34%, down from 38% in 2003. Within the province, the greatest declines were in the health regions of the Middlesex-London health unit (southwest Ontario) and in the Eastern Ontario health unit.

Chart 1
Age-standardized[1] flu vaccination[2] rates, population aged 12 years and over, Canada, 2003 to 2013–2014



* significantly different from the 2003 estimate ($p<0.05$)
1. The data were age-standardized to the age structure of the Canadian respondents of the 2013–2014 Canadian Community Health Survey.
2. Refers to Canadians who received a flu vaccination within the 12 months prior to responding to the survey.
Sources: Statistics Canada, 2003 to 2013–2014, Canadian Community Health Surveys.

Chart 2
Age-standardized[1] flu vaccination[2] rates, population aged 12 and over, Canada, provinces and territories[3], 2003 and 2013–2014



1. The data were age-standardized to the age structure of the Canadian respondents of the 2013–2014 Canadian Community Health Survey.
2. Refers to Canadians who received a flu vaccination within 12 months prior to responding to the survey.
3. The three territories were combined to produce a large enough sample size to compare 2003 and 2013–2014 data.

Notes: The differences are statistically significant between the 2003 and 2013–2014 estimates for each province and the territories ($p<0.05$).
Sources: Statistics Canada, 2003 to 2013–2014, Canadian Community Health Surveys.

The largest increases in flu vaccination rates between 2003 and 2013–2014 occurred in Nova Scotia and New Brunswick. In Nova Scotia, specifically, females aged 12 to 44 had double the increase in their vaccination rate (from 18% to 37%) compared with their male counterparts (data not shown).

Flu vaccination rates decreased among seniors while they increased among younger Canadians

Seniors (aged 65 and over) are a group identified by the NACI as being at risk of health complications from the flu.[7] In response, the NACI set a national target where 80% of seniors should be vaccinated.[18] In the past 12 years, the closest that seniors in Canada have come to reaching this target was 71% in 2005 (data not shown).

In 2013–2014, 64% of seniors got a flu vaccination; down from 67% in 2003. Meanwhile, the rate increased among younger Canadians (12 to 44 years) from 16% to 19% during the same time period (Table 1).

Flu vaccination rates among seniors differed across the provinces

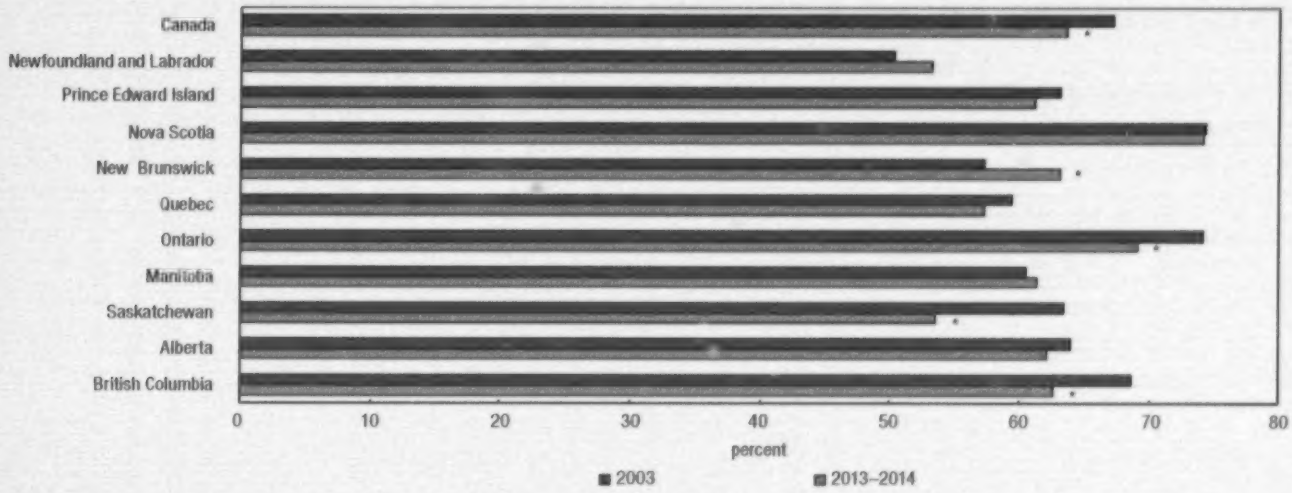
Between 2003 and 2013–2014, changes in provincial flu vaccination rates among seniors did not mirror those among all Canadians 12 years and over. In all four Atlantic provinces, for instance, flu vaccination rates increased among the general population (Chart 2), while the rate among seniors only increased in New Brunswick during that time period (Chart 3).

Table 1
Flu vaccination[1] rates by age group, Canada, 2003 and 2013–2014

Age groups	2003	2013–2014
12 to 44	16	19*
12 to 17	18	23*
18 to 34	13	17*
35 to 44	18	22*
45 to 64	32	32
45 to 54	26	25
55 to 64	39	39
65 and over	67	64*

* significantly different from 2003 estimate of the same age group ($p<0.05$)
1. Refers to Canadians who received a flu vaccination within the 12 months prior to responding to the survey.
Sources: Statistics Canada, 2003 and 2013–2014, Canadian Community Health Surveys.

Chart 3
Flu vaccination[1] rates, population aged 65 and over, Canada and provinces, 2003 and 2013–2014



* significantly different from the province's 2003 estimate ($p<0.05$)
1. Refers to Canadians who received a flu vaccination within 12 months prior to responding to the survey.
Notes: The territories were excluded due to insufficient sample size to compare 2003 and 2013–2014 data.
Sources: Statistics Canada, 2003 and 2013–2014, Canadian Community Health Surveys.

Moreover, the increases in flu vaccination rates among the general population in the three Prairie provinces and British Columbia were not reflected in the senior population. In fact, vaccination rates among seniors decreased between 2003 and 2013–2014 in Saskatchewan and British Columbia and remained unchanged in Manitoba and Alberta.

Flu vaccination rates among people under 65 with one or more selected chronic conditions remained below the national target

Another group at risk of complications from the flu are those under 65 with one or more selected chronic conditions, including: heart disease, effects of stroke, asthma, diabetes, cancer, emphysema, bronchitis, chronic obstructive pulmonary disease and a high level of obesity (class 3).[7,19]

As with the senior population, the NACI also established a goal to vaccinate 80% of Canadians under 65 with selected chronic conditions.[18] Although, overall, Canadians with selected chronic conditions in 2013–2014 had a higher vaccination rate (32%) than those with no chronic conditions (22%), they were still well below the NACI target (Table 2).

Table 2
Age-standardized[1] flu vaccination[2] rates by one or more selected chronic conditions[3], population aged 12 to 64, Canada and regions, 2003 and 2013–2014

	One or more selected chronic conditions		No selected chronic conditions	
Canada and regions	2003	2013–2014	2003	2013–2014
Canada	34	32	20	22*
Atlantic provinces[4]	31	43*	16	28*
Quebec	25	25	12	15*
Ontario	43	34*	28	25*
Prairie provinces[4]	27	31*	16	25*
British Columbia	31	35	19	24*

* significantly different from 2003 estimate of the same geography ($p<0.05$)
1. The data were age-standardized to the age structure of the Canadian respondents of the 2013–2014 Canadian Community Health Survey.
2. Refers to Canadians who received a flu vaccination within the 12 months prior to responding to the survey.
3. Selected chronic conditions: refers to people with one or more of the following chronic conditions that was diagnosed by a health professional and is expected to have lasted six months or more: asthma, diabetes, heart disease, cancer, effects of stroke, obesity (class 3), bronchitis, emphysema and chronic obstructive pulmonary disease.
4. The Atlantic provinces and the Prairie provinces were each combined to produce sample sizes that were large enough to compare 2003 and 2013–2014 data.
Notes: The territories were excluded due to insufficient sample size for comparing 2003 and 2013–2014 data.
Sources: Statistics Canada, 2003 and 2013–2014 Canadian Community Health Surveys.

There were notable regional differences in vaccination rates among those with one or more selected chronic conditions (Table 2). The largest decrease was in Ontario where the proportion of those vaccinated dropped from 43% in 2003 to 34% in 2013–2014.

In contrast, increases over time in the vaccination rate among this at-risk group occurred in the Atlantic and Prairie provinces. The largest increase was 12 percentage points in the Atlantic provinces, where 43% were vaccinated in 2013–2014, up from 31% in 2003.

Conclusion

Almost one-third of Canadians aged 12 and over got a flu vaccination in 2013–2014. With the exception of Ontario, the percentage of people who got a flu vaccination was higher in 2013–2014 than in 2003 for all provinces and territories.

While the flu vaccination rate among seniors was double that of the general population, it still did not reach the target of 80% for this high-risk group. In fact, the flu vaccination rate among Canadian seniors decreased between 2003 and 2013–2014. People in another high risk group – those under 65 with select chronic conditions– had a flu vaccination rate that was lower than the target of 80%.

Further research is needed to better understand the differences in provincial and territorial rates, including the impact of promotional campaigns, free coverage for flu vaccines as well as increasing access to vaccines at pharmacies.

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Data sources, methods and definitions

Data sources

The **Canadian Community Health Survey-Annual Component (CCHS-Annual)** is a cross-sectional survey that collects information related to health status, health care utilization and health determinants for the Canadian population. The CCHS-Annual covers the population 12 years of age and over living in the ten provinces and the three territories.

Excluded from the survey's coverage are: persons living on reserves and other Aboriginal settlements in the provinces; full-time members of the Canadian Forces; the institutionalized population and persons living in the Quebec health regions of *Région du Nunavik* and *Région des Terres-Cries-de-la-Baie-James*. Altogether, these exclusions represent less than 3% of the target population.

Estimates for this study were based on data from the 2003, 2005, 2007–2008, 2009–2010, 2011–2012 and 2013–2014 CCHS-Annual. About 130,000 respondents were interviewed for each of the listed CCHS-Annual time periods.

Methods

Weighted frequencies and cross-tabulations were used to estimate the percentage of people who received a flu vaccination as well as their reasons for not receiving it.

Age-standardized rates: were used in this paper to account for the differing age structures of the Canadian population both over time and by geography (e.g., by province). When comparing flu vaccination rates over time by province and territory, rates were adjusted to the age structure of the Canadian population who responded to the 2013–2014 CCHS-Annual.

Definitions

Chronic Obstructive Pulmonary Disease: refers to a group of lung diseases that block airflow into and out of the lungs making breathing difficult.

Flu: refers to influenza; a respiratory infection caused by influenza A and B viruses.

Health Region: A region created by provincial ministries to administer and monitor health services.[20]

Obesity (class 3): Obesity is identified by using the body mass index (BMI), a ratio that consists of an individual's weight relative to their height.[21,22] People classified under BMI's obesity (class 3) category are at high risk of health problems.

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